Expansion of the Sanitary Effluent Reclamation Facility (SERF) at Los Alamos National Laboratory

Reducing, Reusing and Recycling Potable Water at LANL

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Introduction – Why the SERF?

LANL uses ~600-900 AFY of water in cooling processes.

SERF specially designed to reclaim sanitary wastewater for reuse.

SERF removes natural and anthropogenic constituents to levels required in EPA permits.

SERF process and SERF-E concept will save significant amount of groundwater while reducing introduction of chemicals to the environment.

The SERF Process

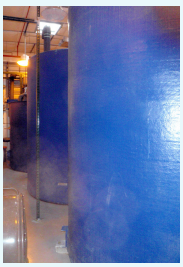
Precipitation and Flocculation of SWWS effluent

Solids Concentration

Solids Removal and Dewatering

Reverse Osmosis

Blend Reverse Osmosis With SWWS effluent



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How does SERF interface with the LANL environment?

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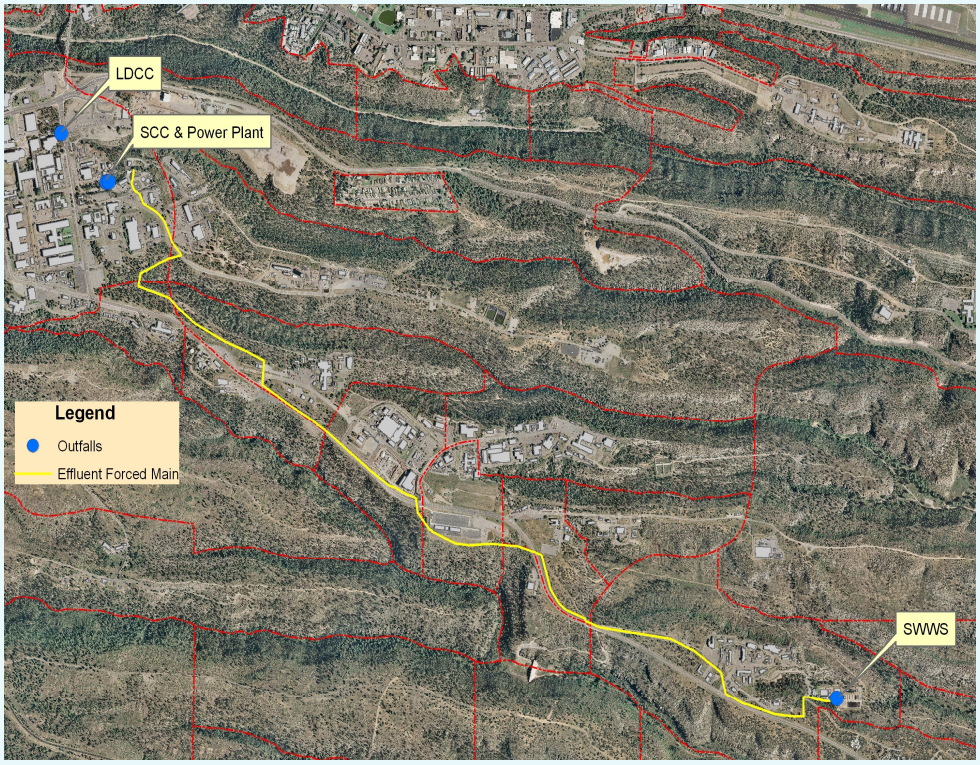


Aerial view of LANL complex and facilities integral to expanded SERF concept.

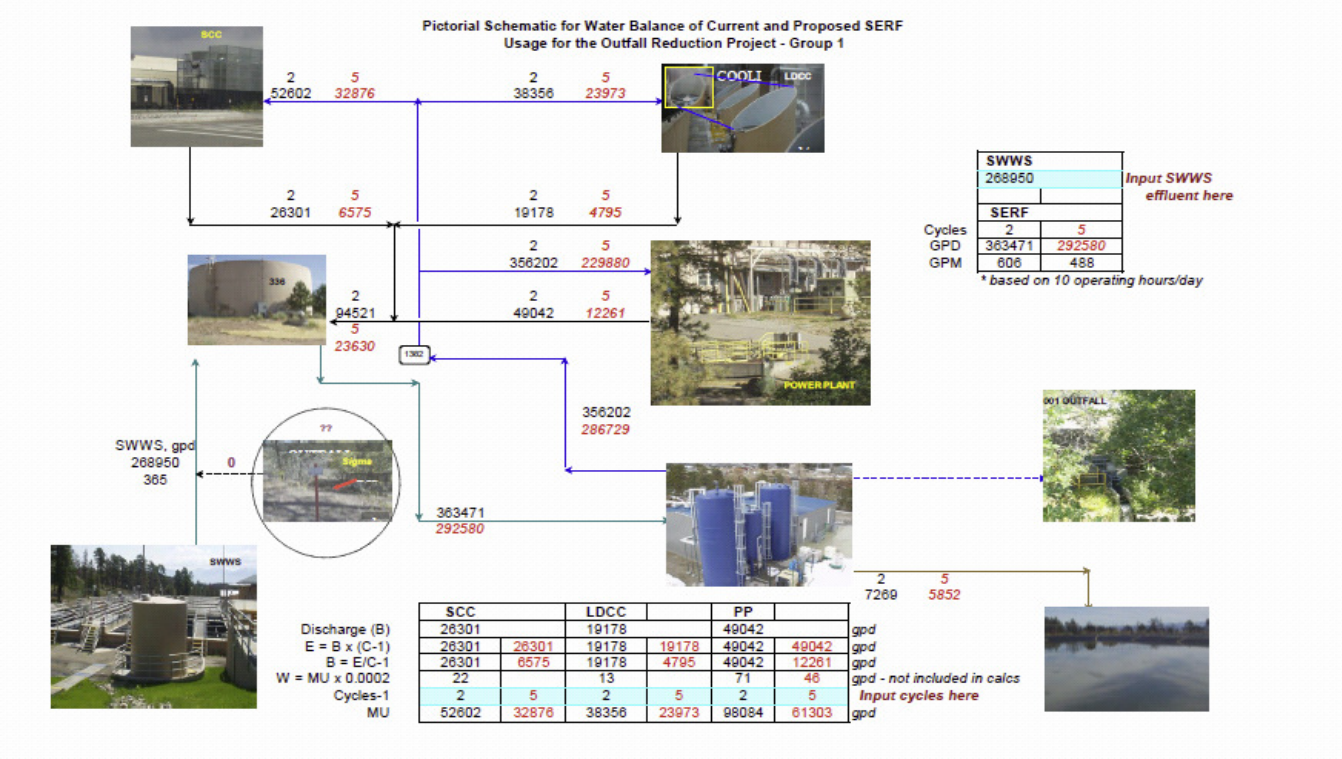
SERF treats sanitary effluent for reuse at LANL.

Reuse options include providing clean water to the Metropolis Center (also called Supercomputing Complex or SCC), the Laboratory Data Communications Complex (LDCC) and the Power Plant.

Reuse options range from none to 100%.

Excess treated water may be discharged to Sandia Canyon.

The expanded SERF providing water to other facilities can save hundreds of millions of gallons of potable ground water annually.



Schematic of facilities served by SERF and model of water balance between facilities showing potential water savings via reclamation, reuse and reduced consumption of water in those facilities due to operational improvements.